

Title (en)

Fluorescent image obtainment method and apparatus, fluorescence endoscope, and excitation-light unit

Title (de)

Verfahren und Vorrichtung zum Erhalt eines Fluoreszenzbildes, Fluoreszenzendoskop und Erregungsbildeinheit

Title (fr)

Procédé et appareil pour obtenir une image fluorescente, endoscope à fluorescence, et unité d'excitation lumineuse

Publication

EP 2409635 A1 20120125 (EN)

Application

EP 11179372 A 20090522

Priority

- EP 09006889 A 20090522
- JP 2008134069 A 20080522
- JP 2008134070 A 20080522
- JP 2008134071 A 20080522
- JP 2008134072 A 20080522
- JP 2008134073 A 20080522

Abstract (en)

A fluorescent image obtainment apparatus includes a light illumination means (130, 150) that illuminates a region to be observed with illumination-light and excitation-light at the same time, and an imaging means (110) that captures an image composed of fluorescence output from the region illuminated with the illumination-light and an image composed of fluorescence output from the region illuminated with the excitation-light. Further, the apparatus includes an image processing means (170) that produces an ordinary image based on the image of the reflection light and a fluorescent image based on the image of fluorescence, and a light amount control means (186) that controls the light amount of the illumination-light so that a representative luminance value of the ordinary image becomes a predetermined luminance value and the light amount of the excitation-light so that the ratio of the light amount of the excitation-light to that of the illumination-light becomes a predetermined ratio.

IPC 8 full level

A61B 1/04 (2006.01); **A61B 1/06** (2006.01); **A61B 1/07** (2006.01); **A61B 5/00** (2006.01)

CPC (source: EP US)

A61B 1/00009 (2013.01 - EP US); **A61B 1/042** (2013.01 - EP US); **A61B 1/043** (2013.01 - EP US); **A61B 1/063** (2013.01 - EP US); **A61B 1/0638** (2013.01 - EP US); **A61B 1/0655** (2022.02 - EP US); **A61B 1/0669** (2013.01 - EP US); **A61B 5/0071** (2013.01 - EP US); **A61B 5/0084** (2013.01 - EP US); **A61B 5/0075** (2013.01 - EP US)

Citation (applicant)

- US 6465968 B1 20021015 - SENDAI TOMONARI [JP]
- US 2003216626 A1 20031120 - TSUJITA KAZUHIRO [JP], et al
- US 2004162492 A1 20040819 - KOBAYASHI HIROYUKI [JP]
- JP 3718024 B2 20051116
- JP 2002143079 A 20020521 - ASAHI OPTICAL CO LTD
- US 2006256191 A1 20061116 - IKETANI KOHEI [JP], et al
- JP 2003093336 A 20030402 - TOSHIBA CORP
- US 2007183162 A1 20070809 - HIGUCHI MITSURU [JP]

Citation (search report)

- [AD] EP 1813185 A1 20070801 - FUJINON CORP [JP]
- [A] US 5749830 A 19980512 - KANEKO MAMORU [JP], et al
- [IP] US 2008239070 A1 20081002 - WESTWICK PAUL [CA], et al

Cited by

CN106377219A

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK TR

DOCDB simple family (publication)

EP 2123213 A2 20091125; **EP 2123213 A3 20101013**; **EP 2123213 B1 20140806**; CN 103431830 A 20131211; EP 2404542 A1 20120111; EP 2404543 A1 20120111; EP 2409635 A1 20120125; EP 2409635 B1 20130508; US 2009289200 A1 20091126

DOCDB simple family (application)

EP 09006889 A 20090522; CN 201310301619 A 20090522; EP 11179366 A 20090522; EP 11179372 A 20090522; EP 11179380 A 20090522; US 45376809 A 20090521